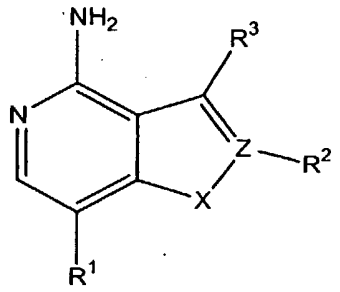
WHAT IS CLAIMED IS

10/899168

1. A compound of formula (I)



(I),

or a therapeutically acceptable salt thereof, wherein

X is selected from the group consisting of O and S;

Z is selected from the group consisting of C and N;

R^1 is selected from the group consisting of hydrogen, alkenyl, alkoxyalkynyl, alkoxycarbonyl, alkoxycarbonylalkenyl, alkoxycarbonylalkyl, alkoxycarbonylalkynyl, alkyl, alkynyl, aryl, arylalkenyl, arylalkyl, arylalkynyl, aryloxyalkyl, aryloxyalkynyl, arylsulfanylalkyl, arylsulfanylalkynyl, arylsulfonyloxyalkenyl, carboxy, carboxyalkenyl, carboxyalkyl, carboxyalkynyl, cyano, cyanoalkenyl, cyanoalkyl, cyanoalkynyl, cycloalkyl, cycloalkylalkoxyalkynyl, cycloalkylalkenyl, cycloalkylalkynyl, formylalkenyl, formylalkyl, halo, haloalkyl, heteroaryl, heteroarylalkenyl, heteroarylalkyl, heteroarylalkynyl, heteroarylcarbonyl, heteroarylcarbonylalkenyl, heteroarylcarbonylalkyl, heterocyclyl, heterocyclylalkenyl, heterocyclylalkyl, heterocyclylalkylcarbonyl, heterocyclylalkynyl, heterocyclylcarbonyl, heterocyclylcarbonylalkenyl, heterocyclylcarbonylalkyl, heterocyclyloxyalkenyl, hydroxyalkenyl, hydroxyalkyl, hydroxyalkynyl, NR^aR^b, (NR^aR^b)alkenyl, (NR^aR^b)alkyl, (NR^aR^b)alkynyl, (NR^aR^b)carbonyl, (NR^aR^b)carbonylalkenyl, (NR^aR^b)carbonylalkyl, (NR^aR^b)carbonylalkynyl, nitro, nitroalkenyl, nitroalkyl, and nitroalkynyl;

R^2 is absent or selected from the group consisting of hydrogen and alkyl;

R^3 is selected from the group consisting of halo, aryl, heteroaryl, and heterocyclyl, wherein the aryl, the heteroaryl, and the heterocyclyl are optionally substituted with one, two, or three substituents independently selected from the group consisting of alkoxy, alkyl, aryl, cyano, halo, haloalkoxy, haloalkyl, heteroaryl, heterocyclyl, hydroxy, hydroxyalkyl, LR^4, and NR^aR^b; provided that at least two of the three substituents are other than LR^4;

L is selected from the group consisting of O, $(CH_2)_mC(O)NR^5$, $NR^5C(O)(CH_2)_m$, NR^5SO_2, SO_2NR^5, $(CH_2)_mN(R^5)C(O)N(R^6)(CH_2)_n$, and $(CH_2)_mN(R^5)C(S)N(R^6)(CH_2)_n$,wherein

m and n are independently 0 or 1, and wherein each group is drawn with its right end attached to R^4;

R^4 is selected from the group consisting of aryl, arylalkyl, cycloalkyl, heteroaryl, heteroarylalkyl, heterocyclyl, and heterocyclylalkyl;

R^5 and R^6 are independently selected from the group consisting of hydrogen and alkyl;

R^a and R^b are independently selected from the group consisting of hydrogen, alkenyl, alkoxyalkyl, alkoxycarbonyl, alkoxycarbonylalkyl, alkyl, alkylcarbonyl, alkylsulfanylalkyl, alkylsulfonyl, aryl, arylalkoxycarbonyl, arylalkoxycarbonylalkyl, arylalkyl, arylcarbonyl, arylsulfonyl, carboxyalkyl, cycloalkyl, cycloalkylalkyl, formylalkyl, heteroaryl, heteroarylalkyl, heteroarylcarbonyl, heteroarylsulfonyl, heterocyclyl, heterocyclylalkyl, heterocyclylalkylcarbonyl, heterocyclylcarbonyl, heterocyclylsulfonyl, hydroxyalkoxyalkyl, hydroxyalkyl, (NR^cR^d)alkyl, (NR^cR^d)alkylcarbonyl, (NR^cR^d)carbonyl, and (NR^cR^d)carbonylalkyl, wherein the aryl, the aryl part of the arylalkoxycarbonyl, the arylalkoxycarbonylalkyl, the arylalkyl, the arylcarbonyl, and the arylsulfonyl, the cycloalkyl, the cycloalkyl part of the cycloalkylalkyl, the heteroaryl, the heteroaryl part of the heteroarylalkyl, and the heteroarylcarbonyl, the heterocyclyl, and the heterocyclyl part of the heterocyclylalkyl and the heterocyclylcarbonyl can be further optionally substituted with one, two, three, four, or five substituents independently selected from the group consisting of alkenyl, alkoxy, alkoxycarbonyl, alkyl, alkylcarbonyl, aryl, arylalkyl, halo, haloalkoxy, haloalkyl, hydroxy, nitro, NR^cR^d, (NR^cR^d)alkyl, (NR^cR^d)alkylcarbonyl, (NR^cR^d)carbonyl, (NR^cR^d)carbonylalkyl, oxo, and spiroheterocyclyl, wherein the aryl and the aryl part of the arylalkyl can be substituted with one, two, three, four, or five substituents independently selected from the group consisting of alkoxy, alkyl, cyano, halo, haloalkoxy, haloalkyl, nitro, and oxo;

R^c and R^d are independently selected from the group consisting of hydrogen, alkoxy, alkyl, aryl, carboxyalkyl, cycloalkyl, haloalkyl, heteroaryl, heterocyclyl, heterocyclylalkyl, hydroxyalkoxyalkyl, hydroxyalkyl, and (NR^eR^f)alkyl, wherein the aryl, the heteroaryl, and the heterocyclyl can be optionally substituted with one, two, three, four, or five substituents independently selected from the group consisting of alkenyl, alkoxy, alkyl, halo, haloalkoxy, haloalkyl, hydroxy, and nitro; and

R^e and R^f are independently selected from the group consisting of hydrogen and alkyl.

2. The compound of claim 1 wherein R^3 is selected from the group consisting of halo, heteroaryl, and heterocyclyl.

3. The compound of claim 1 wherein R^3 is aryl.

4. The compound of claim 3 wherein R^3 is aryl, wherein the aryl is unsubstituted or substituted with one or two substituents independently selected from the group consisting of alkoxy, alkyl, aryl, cyano, halo, haloalkoxy, haloalkyl, hydroxyalkyl, and NR^aR^b.

5. The compound of claim 3 wherein R^3 is aryl, wherein the aryl is substituted with LR^4 and optionally with one or two additional substituents independently selected from the group consisting of alkoxy, alkyl, aryl, cyano, halo, haloalkoxy, haloalkyl, hydroxyalkyl, and NR^aR^b.

6. The compound of claim 5 wherein L is O.

7. The compound of claim 6 wherein R^1 is selected from the group consisting of heterocyclylalkenyl, heterocyclylcarbonylalkenyl, (NR^aR^b)alkenyl, and (NR^aR^b)carbonylalkenyl.

8. The compound of claim 6 wherein R^1 is selected from the group consisting of hydrogen, alkoxycarbonylalkenyl, carboxyalkenyl, heteroaryl, and hydroxyalkenyl.

9. The compound of claim 5 wherein L is selected from the group consisting of $NR^5C(O)(CH_2)_m$ and NR^5SO_2.

10. The compound of claim 9 wherein R^1 is (NR^aR^b)alkenyl.

11. The compound of claim 9 wherein R^1 is selected from the group consisting of heterocyclylalkenyl, heterocyclylalkyl, and (NR^aR^b)carbonylalkenyl.

12. The compound of claim 9 wherein R^1 is selected from the group consisting of hydrogen, alkoxycarbonylalkenyl, carboxyalkenyl, formylalkenyl, and heteroaryl.

13. The compound of claim 9 wherein R^1 is selected from the group consisting of alkoxyalkynyl, arylalkynyl, carboxyalkynyl, cycloalkylalkynyl, halo, heteroarylalkynyl, heterocyclylalkyl, heterocyclylalkynyl, hydroxyalkynyl, and (NR^aR^b)alkynyl.

14. The compound of claim 5 wherein L is $(CH_2)_mN(R^5)C(O)N(R^6)(CH_2)_n$.

15. The compound of claim 14 wherein R^1 is selected from the group consisting of alkynyl, arylalknyl, aryloxyalkynyl, arylsulfanylalkynyl, cyanoalkynyl, heteroarylalkynyl, hydroxyalkynyl, and (NR^aR^b)alkynyl.

16. The compound of claim 14 wherein R^1 is selected from the group consisting of alkoxycarbonylalkenyl, carboxyalkenyl, heteroarylcarbonylalkenyl, heterocyclylcarbonylalkenyl, and (NR^aR^b)carbonylalkenyl.

17. The compound of claim 14 wherein R^1 is selected from the group consisting of aryl and heteroaryl.

18. The compound of claim 14 wherein R^1 is selected from the group consisting of alkoxycarbonylalkyl, carboxyalkyl, heterocyclylalkyl, hydroxyalkyl, (NR^aR^b)alkyl, and (NR^aR^b)carbonylalkyl.

19. The compound of claim 14 wherein R^1 is selected from the group consisting of hydrogen, halo, nitro, and NR^aR^b.

20. A compound which is
(2E)-3-[4-amino-3-(3-phenoxy-1-propynyl)thieno[3,2-c]pyridin-7-yl]-N-methylacrylamide.

21. A compound selected from the group consisting of
N-{4-[4-amino-7-(3-pyridinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(3-methylphenyl)urea;
N-{4-[4-amino-7-(2-methoxy-5-pyrimidinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-[3-(trifluoromethyl)phenyl]urea;
N-{4-[4-amino-7-(5-pyrimidinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(3-methylphenyl)urea;
N-(4-{4-amino-7-[3-(diethylamino)-1-propynyl]thieno[3,2-c]pyridin-3-yl}phenyl)-N'-(3-methylphenyl)urea;
N-(4-{4-amino-7-[3-(methylamino)-1-propynyl]thieno[3,2-c]pyridin-3-yl}phenyl)-N'-(3-methylphenyl)urea;
N-{4-[4-amino-7-(3-pyridinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(2-fluoro-5-methylphenyl)urea;
N-{4-[4-amino-7-(1H-indol-5-yl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(3-methylphenyl)urea;
N-{4-[4-amino-7-((1E)-3-{4-[3-(dimethylamino)propyl]-1-piperazinyl}-1-propenyl)thieno[3,2-c]pyridin-3-yl]-2-methoxyphenyl}-1-methyl-1H-indole-2-carboxamide;
N-[4-(4-amino-7-{(1E)-3-[4-(aminomethyl)-1-piperidinyl]-1-propenyl}thieno[3,2-c]pyridin-3-yl)-2-methoxyphenyl]-1-methyl-1H-indole-2-carboxamide;
1-{(2E)-3-[4-amino-3-(3-methoxy-4-{[(1-methyl-1H-indol-2-yl)carbonyl]amino}phenyl)thieno[3,2-c]pyridin-7-yl]-2-propenyl}-4-piperidinecarboxylic acid;

N-[4-(4-amino-7-{(1E)-3-[trans-(4-aminocyclohexyl)amino]-1-propenyl}thieno[3,2-c]pyridin-3-yl)-2-methoxyphenyl]-1-methyl-1H-indole-2-carboxamide;
N-(4-{4-amino-7-[(1E)-3-(4-amino-1-piperidinyl)-1-propenyl]thieno[3,2-c]pyridin-3-yl}-2-methoxyphenyl)-1-methyl-1H-indole-2-carboxamide;

N-{4-[4-amino-7-(4-pyridinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(3-methylphenyl)urea;

N-{4-[4-amino-7-(3-pyridinylethynyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(3-methylphenyl)urea; and

N-[4-(4-amino-7-pyridin-3-ylfuro[3,2-c]pyridin-3-yl)phenyl]-N'-(3-methylphenyl)urea.

22. A compound selected from the group consisting of
N-{4-[4-amino-7-(4-pyridinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-[2-fluoro-5-(trifluoromethyl)phenyl]urea;
N-{4-[4-amino-7-(4-pyridinyl)thieno[3,2-c]pyridin-3-yl]phenyl}-N'-(2-fluoro-5-methylphenyl)urea;
N-(4-{4-amino-7-[(1E)-3-(4-hydroxy-1-piperidinyl)-1-propenyl]thieno[3,2-c]pyridin-3-yl}-2-methoxyphenyl)-1-methyl-1H-indole-2-carboxamide;

(2E)-3-[4-amino-3-(2-methyl-1H-indol-5-yl)thieno[3,2-c]pyridin-7-yl]-N-methylacrylamide; and
N-[4-(4-amino-7-{(1E)-3-[4-(2-hydroxyethyl)-1-piperazinyl]-1-propenyl}thieno[3,2-c]pyridin-3-yl)-2-methoxyphenyl]-1-methyl-1H-indole-2-carboxamide.

23. A pharmaceutical composition comprising a compound of claim 1 or a therapeutically acceptable salt thereof, in combination with a therapeutically acceptable carrier.

24. A method for inhibiting one or more protein kinases in a patient in recognized need of such treatment comprising administering to the patient a therapeutically acceptable amount of a compound of claim 1, or a therapeutically acceptable salt thereof.

25. The method of claim 24 wherein the protein kinases are selected from the group consisting of KDR, Ckit, CSF-1R, PDGFRβ, PDGFRα, Flt-1, Flt-3, Flt-4, Tie-2, Lck, Src, Fyn, Lyn, Blk, Hck, Fgr, Cot, and Yes.

26. The method of claim 25 wherein the protein kinases are selected from the group consisting of KDR and Lck.

27. A method for treating a condition in a patient comprising administering a therapeutically effective amount of a compound of claim 1, or a therapeutically acceptable salt thereof, to the patient, wherein the condition is selected from the group consisting of an ocular condition, a cardiovascular condition, a cancer, Crow-Fukase (POEMS) syndrome, a diabetic condition, sickle cell anemia, chronic inflammation, systemic lupus, glomerulonephritis, synovitis, inflammatory bowel disease, Crohn's disease, rheumatoid arthritis, osteoarthritis, multiple sclerosis, graft rejection, lyme disease, sepsis, von Hippel Lindau disease, pemphigoid, psoriasis, Paget's disease, polycystic kidney disease, fibrosis, sarcoidosis, cirrhosis, thyroditis, hyperviscosity syndrome, Osler-Weber-Rendu disease, chronic occlusive pulmonary disease, asthma or edema following burns, trauma, radiation, stroke, hypoxia, ischemia, overian hyperstimulation syndrome, preecampsia, menometrorrhagia, endometriosis, or infection by Herpes simplex, Herpes Zoster, human immunodeficiency virus, parapoxyvirus, protozoa, and toxoplasmosis.

28. The method of claim 27 wherein the condition is a cancer.